CALIFORNIA BUILDING CODE (2006 IBC)
PUBLIC PROPOSAL FORM

INTERNATIONAL CODE COUNCIL®

PLEASE SEE REVERSE FOR INSTRUCTIONS ON SUBMITTING PUBLIC PROPOSALS. PROPOSALS MUST COMPLY WITH THESE INSTRUCTIONS.

1) **Indicate the format in which you would like to receive your Public Proposals Monograph (PPM), Report of the Hearing (ROH) and Final Action Agenda (FAA):**

[X] Paper [ ] * CD [ ] *Download from ICC Website

(*Note: A paper copy will not be sent to you if you have chosen the CD or Download format.)

2) **PLEASE TYPE OR PRINT CLEARLY: FORMS WILL BE RETURNED if they contain unreadable information.**

Name:	Rick Thornberry, P.E.			Date:	3/15/06
Jurisdiction/Company:	The Code Consortium, Inc.				
Submitted on Behalf of:	Alliance for Fire and Smoke Containment and Control (AFSCC)				
Address:	2724 Elks Way				
City:	Napa	State:	CA	Zip +4:	94558-3500
Phone:	(707) 253-2633	Ext:		Fax:	(707) 253-2639
e-mail:	thecodeinc@aol.com				

3) ***Signature:** _____ [ ] **Signature on File (see over)**

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4) **Cost Impact:** **Indicate if this Proposal:** [ ] **will** [ ] **will not** **increase the cost of construction.**

5) Indicate appropriate International Code(s) associated with this Public Proposal – Please use Acronym: **IBC**

If you have also submitted a separate coordination change to another I-Code, please indicate the code: _____
(See back of this form for list of names and acronyms for the International Codes).

6) **Revision to:** [X] **Section** **504.2** [ ] **Table** _____ [ ] **Figure** _____

7) **PROPOSAL Please check appropriate box:**

[X] **Revise as follows:** [ ] **Add new text as follows** [ ] **Delete and substitute as follows:** [ ] **Delete without Substitution(s):**

Show the proposed NEW, REVISED or DELETED TEXT in legislative format: ~~Line through text to be deleted.~~ Underline text to be added.

504.2 Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for ~~maximum height is increased by 20 feet (6096 mm) and~~ the maximum number of stories ~~is~~ shall be increased by one story. ~~These~~ This increase~~s~~ ~~are~~ shall be permitted in addition to the area increases in accordance with Sections 506.2 and 506.3. For Group R buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2, the value specified in Table 503 for ~~maximum height is increased by 20 feet (6096 mm) and~~ the maximum number of stories ~~is~~ shall be increased by one story, but shall not exceed four stories ~~or 60 feet (19 288 mm), respectively~~.

Exceptions:

1. Fire areas with an occupancy in Group I-2 of Type IIB, III, IV or V construction.
2. Fire areas with an occupancy in Group H-1, H-2, H-3 or H-5.
3. Fire-resistance rating substitution in accordance with Table 601, Note e.

☐ PROPOSAL *Continued* (Attach additional sheets as necessary)

8) SUPPORTING INFORMATION (State purpose and reason, and provide substantiation to support proposed change):

The purpose of this proposed amendment is to eliminate the 20 foot height increase allowed when an automatic sprinkler system is installed in a building. This 20 foot height increase is allowed in addition to a one story height increase under the current 2006 International Building Code (IBC). However, the current 2001 California Building Code (CBC) does not permit such an increase in height in terms of the total number of feet allowed.

Increasing the allowable building height will pose more of a challenge to the responding fire department to gain access to the roof or the upper floors of such buildings. This may mandate that they utilize more sophisticated ladders and aerial equipment which complicates their fire fighting and rescue efforts. Increased height means more time will be required to gain access to the roof or the upper stories of the building which delays rescue, as well as fire fighting operations, should the fire be on the upper floors, or the roof. This will potentially reduce the overall level of fire and life safety provided in these buildings even though an automatic sprinkler system is installed. Since automatic sprinkler systems are not foolproof or fail safe, they may not be available at a critical time when a fire gets out of control and the fire department must respond and deal with a fire on the upper story of the building or the roof. This is even more critical in seismically active areas such as in California where a seismic event can knock out the water supply to the sprinkler system. Seismic events will also put a greater demand on the fire department since they will be responding to multiple incidents and they will face more challenges if the buildings are allowed to be 20 feet higher than currently allowed by the CBC. This will certainly result in more property damage and more risk for the building occupants, as well as the fire fighters who have to respond to an uncontrolled fire in such buildings.

It is also interesting to note that the 20 foot height increase was not allowed by the 1999 SBCCI Standard Building Code (SBC). The SBC basically has the same height limits as the IBC and the CBC with the exception of the SBC Type II construction, which is comparable to the IBC Type IB construction, which only allows 80 feet in height as compared to 160 feet for both the IBC and the CBC Type II-FR construction.

The 1999 BOCA National Building Code (NBC) was the only legacy model code that had the provision that allowed the additional 20 feet in height when an automatic sprinkler system was installed in the building. However, the NBC does not specify the same maximum heights for buildings based on feet as both the CBC and the SBC do, as mentioned above. Each occupancy and type of construction is

assigned a maximum building height and story height which varies for each occupancy based on the construction type.

To assist in evaluating the heights that the BOCA NBC would allow based on the automatic sprinkler system increase of 20 feet as compared to what is currently allowed in the IBC for the given types of construction without the 20 foot height increase, we have provided the following table which equates the IBC and BOCA NBC types of construction:

Construction Type		Height Limit (FT)	
IBC	NBC	IBC	NBC*
IA	1B	UL	UL
IB	2A	160	60 – 120
IIA	2B	65	50 – 85
IIB	2C	55	40 – 60
IIIA	3A	65	40 – 70
IIIB	3B	55	40 – 60
IV	4	65	40 – 85
VA	5A	50	40 – 60
VB	5B	40	40 – 55

* with 20 foot sprinkler increase

This comparison shows that, in general, the BOCA NBC, even with the 20 foot sprinkler system height increase, still generally does not allow a taller building than currently allowed by the IBC without the 20 foot height increase with a few minor exceptions. So it appears that the allowable increase of 20 feet in height was simply taken from the BOCA NBC, since that was the base code used to start the process of merging the three model codes, without looking at the true consideration of how it impacted the other model codes' allowable heights. So why should California allow the 20 foot height increase if it truly has not been allowed, for the most part, by any of the legacy model codes used throughout the country prior to the IBC?

A more detailed analysis of the allowable heights by the BOCA NBC reveals that, in general, the 20 foot additional height allowed where it is actually equivalent to the 20 feet allowed by the IBC only occurs for a very few occupancies and a very few construction types. Otherwise, the most that the maximum allowable height that's permitted by the BOCA NBC with the sprinkler increase of 20 feet exceeds the basic allowable height without a sprinkler increase in the IBC is 5 feet except for certain cases in Types VA and VB construction where a maximum of 10 feet, and in some very limited cases 15 feet, is allowed above the non-sprinklered allowance. Please refer to the following table which only shows those occupancies/types of construction combinations for which the BOCA NBC allows a greater height with the 20 foot increase than the IBC without the 20 foot height sprinkler increase.

Construction Type		Height Limit (FT)		
IBC	NBC	IBC	NBC	
IIA	2B	65'	B	85'
			F-1	70'
			F-2	85'
			H-3	70'
			H-4	85'
			I-1	70'
			M	70'

			R-1	70’
			R-2	70’
			R-3	70’
			S-1	70’
			S-2	85’
IIB	2C	55’	B	60’
			F-2	60’
			H-4	60’
			I-1	60’
			R-1	60’
			R-2	60’
			R-3	60’
			S-2	60’
IIIA	3A	65’	B	70’
			F-2	70’
			H-4	70’
			I-1	70’
			R-1	70’
			R-2	70’
			R-3	70’
			S-2	70’
IIIB	3B	55’	B	60’
			F-2	60’
			H-4	60’
			I-1	60’
			R-1	60’
			R-2	60’
			R-3	60’
			S-2	60’
IV	4	65’	B	85’
			F-1	70’
			F-2	85’
			H-3	70’
			H-4	85’
			I-1	70’
			M	70’
			R-1	70’
			R-2	70’
			R-3	70’
			S-1	70’
			S-2	85’
VA	5A	50’	B	60’
			F-2	60’
			H-4	60’
			I-1	60’
			R-1	60’
			R-2	60’

			R-3	60’
			S-2	60’
VB	5B	40’	B	50’
			F-2	50’
			H-4	50’
			I-1	55’
			R-1	55’
			R-2	55’
			R-3	55’
			S-1	50’
			S-2	50’

*with 20 foot sprinkler increase

Since for the most part the other legacy model building codes did not in essence allow the 20 foot extra height increase for an automatic sprinkler system as currently allowed by the IBC, we do not see why the CBC should adopt the 20 foot height increase. There would virtually be no real fire experience that can be used as a basis for justifying the 20 foot height increase. Also, by deleting the 20 foot height increase, the level of fire and life safety provided by the IBC will be maintained as compared to the current CBC.

☐ SUPPORTING INFORMATION *Continued* (Attach additional sheets as necessary)